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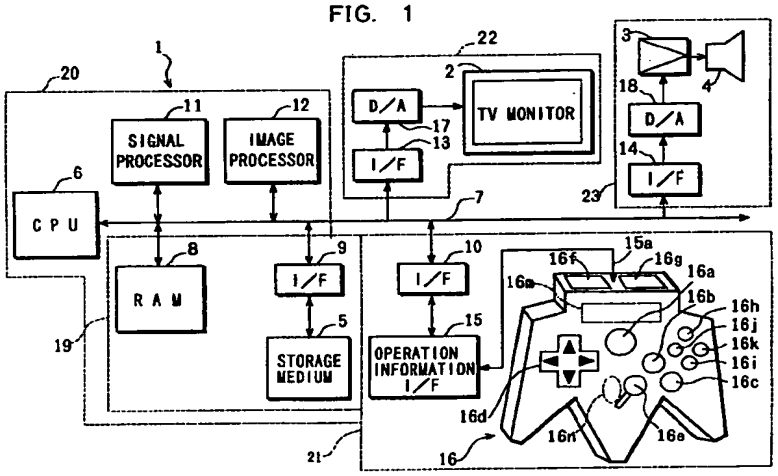
(54) Simulative golf video game system

(57) A simulative golf game system is capable of producing a game image having a guide image regarding a stance setting (Ar1), enabling the game player to easily recognize based on which stance the game is going to be played. The guide image represents a power meter whose scale increases and decreases according to a spacing between the feet. The foot spacing determines the power applied for the shot, and influences the flying distance of the golf ball, thereby making the game more real.

FIG. 1



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senting a stance setting which is adjusted by the game player. Accordingly, the game player can easily recognize based on which stance the game is going to be played, and feel more as if he were actually playing golf.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a block diagram showing a construction of a simulative golf game system embodying the present invention;
FIG 2 is a diagram showing an arrangement of operating devices in a CPU of the simulative golf game system;
FIG. 3 is a diagram showing an example of screen display of the simulative golf game system;
FIGS. 4 to 6 are flowcharts showing an operation sequence of a main routine of a game program;
FIGS. 7 and 8 are flowcharts showing an operation sequence of a stance setting routine;
FIGS. 9 and 10 are flowcharts showing an operation sequence of a stance width setting routine;
FIGS. 11 and 12 are flowcharts showing an operation sequence of a ball position setting routine;
FIGS. 13 and 14 are flowcharts showing an operation sequence of a club setting routine;
FIGS. 15 and 16 are flowcharts showing an operation sequence of a stroke routine;
FIGS. 17A and 17B are diagrams showing a relationship between an analog stick and a stance;
FIGS. 18A and 18B are diagrams showing a relationship between a stance width and a power meter; and
FIGS. 19A and 19B are diagrams showing display examples of the power meter during the stroke processing.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS OF THE INVENTION

An embodiment of the invention will be described in accordance with the following items:

A. Construction of Game System (FIG. 1)
B. Operations of CPU of Game System (FIG. 2)
C. Display of Golf Screen (FIG. 3)
D. Main Routine (FIGS. 4 to 6)
E. Stance Setting Routine (FIG. 7 and 8)
F. Stance Width Setting Routine (FIG. 9 and 10)
G. Ball Position Setting Routine (FIGS. 11 and 12)
H. Club Setting Routine (FIGS. 13 and 14)
I. Hitting Routine (FIGS. 15 and 16)

A. Construction of Game System

FIG. 1 shows a whole construction of a simulative golf game system according to one embodiment of the invention. The game system includes a main unit 1, a television monitor 2 for displaying images of a game, an amplifying circuit 3 and a speaker 4 for outputting audio sounds of the game, and a storage medium 5 for storing a game program and game data in connection with images, and audio sounds. In this embodiment, as the storage medium 5 is used the so-called ROM cassette, optical disk, flexible disk, or the like, in which the above-mentioned program and game data are recorded.

The main unit 1 is constructed as follows. Buses 7 including an address bus, a data bus and a control bus are connected with a CPU 6. With the buses 7 are connected a RAM 8, interface circuits 9, 10, a signal processor 11, an image processor 12, and interface circuits 13, 14. With the interface circuit 10 is connected a controller 16 via an operation information interface circuit 15. Digital-to-analog (D/A) converters 17, 18 are connected with the interface circuits 13, 14, respectively.

A memory portion 19 is defined by the RAM 8, the interface circuit 9 and the storage medium 5. A controlling portion 20 is defined by the CPU 6, the signal processor 11 and the image processor 12 to control the progress of the game. An operable input portion 21 is defined by the interface circuit 10, the operation information interface circuit 15 and the controller 16. An image display portion 22 is defined by the television monitor 2, the interface circuit 13 and the D/A converter 17. An audio output portion 23 is defined by the amplifying circuit 3, the speaker 4, the interface circuit 14 and the D/A converter 18.

This game system is changeable depending on its application. Specifically, in the case that the game system is applied for home use, the television monitor 2, the amplifying circuit 3 and the speaker 4 are arranged separately from the main unit 1. FIG. 1 shows an arrangement for the home use.

In the case that the game system is applied for commercial use, all the elements shown in FIG. 1 are integrally assembled in a single housing.

In the case that the game system is used in combination with a personal computer or a work station computer, the television monitor 2 may be replaced with a monitor of the computer. The function of the image processor 12 may be accomplished by a part of the game program stored in the storage medium 5 or a hardware on an extensible board mounted on an extensible slot of the computer. The function of the RAM 8 may be accomplished by a memory of the computer or of an extensible memory. Also, in this case, the interface circuits 9, 10, 13, 14, the D/A converters 17, 18, the operation information interface circuit 15 correspond to the hard ware on the extensible board mounted on the extensible slot of the computer.

The signal processor 11 mainly executes calculations in a three-dimensional space, calculations for transformation of positions in the three-dimensional space into positions in a pseudo three-dimensional space, a light source calculation processing, generation of audio data and other processing.

The image processor 12 executes, based on calcu-

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displayed images of a golf ball and a ground. In the area Ar3 are displayed an image of a title of an item to be set such as selection of a golf club, tee-up, or a drive position and an image of the item to be set (e.g., golf club). In the guide Gu1 is displayed an indicator image In for indicating the flying distance and position of the golf ball. The display of the indicator image In is changed according to the above setting.

In the middle of the screen are displayed an image of the golfer Ma holding a golf club Cb, a landscape image of a hole including a green Gr and a guide Gu2 in a driving direction from the position of the golfer Ma (or from the position of the ball). The guide Gu2 is in the form of a matrix in a plane, and is formed by a multitude of straight lines. The guide Gu2 is displayed along the driving direction from the position of the golfer Ma in a pseudo three-dimensional manner so as to conform to the configuration of the ground, i.e., similar to the configuration of the ground. The luminance of the guide Gu2 is variable according to the height of the ground located below each parts. In this example, the higher the ground below the guide Gu2, the higher the luminance, and the lower the ground below the guide Gu2, the lower the luminance. Accordingly, the game player can discriminate the height of the ground and is enabled to play a game according to the configuration of the ground within the golf game space by, for example, increasing or decreasing the set value for the stroke by the controller 16.

The guide Gu2 is formed by connecting the respective apices of a polygon defining the configuration of the ground with a multitude of lines generated by the image processor 12 in accordance with a line image command. Since the line image command includes luminance data of the respective polygon apices, the image processor 12 determines the luminance of the line based on the luminance of the apex of the polygon corresponding to a starting point and the luminance of the apex of the polygon corresponding to an end point. For example, if the luminance of the starting point is higher than that of the end point, the luminance of the line is highest at the starting point and is gradually reduced toward the end point.

It should be noted that such gradation is not expressed in the individual lines of FIG. 3 in order to facilitate the drawing.

Normally, height data is set for each part of the landscape. The image processor 12 calculates a light source based on this height data and the position of a virtual light source determined based on the eye position, and the luminance of each part of the landscape is determined based on the calculated light source. Accordingly, the distance and height can be expressed to a certain degree by displaying the landscape image. However, only by expressing the distance and height in the hole based on a luminance difference obtained by the light source calculation, the controller 16 cannot be sufficiently operated using this as a guidance. Accordingly, the guide Gu2 is displayed. The respective parts of the guide Gu2 formed by the straight lines having the same length are displayed in luminance corresponding to the height within the hole and in length corresponding to the distance. Thus, the distance and height of the hole can be more easily expressed. Therefore, the game player can operate the controller 16 so as to conform to the conditions of the hole within the game space.

D. Main Routine (FIGS. 4 to 6)

FIGS. 4 to 6 show a main routine of the simulative golf game system. Operations in accordance with the game program are mainly performed by the respective operating devices of the CPU 6 shown in FIG. 2 as described above.

In Step S1, the image data, audio sound data and program are read from the storage medium 5. The program among the read data is stored in the RAM 8, thereby enabling the CPU 6 to execute the respective operations of the operating devices shown in FIG. 2.

In Step S2, the button operation detecting device 6a discriminates whether the start button 16b of the controller 16 has been pressed. Step S3 follows if the discrimination result is "YES".

In Step S3, the image command issuing device 6g issues an image command representing the display of a select image to the image processor 12. The image processor 12 causes the image data of the select image to be displayed on the display surface of the television monitor 2.

In Step S4, the button operation detecting device 6a discriminates whether an A-button (hereinafter, "decision button") 16b of the controller 16 has been pressed. Step S5 follows if the discrimination result is "YES".

In Step S5, the CPU 6 sets a selected game. A desired game is selected by using the cross key 16d or the analog stick 16e while viewing the selection image displayed in Step S3, and then designated by pressing the decision button 16b. The term "game" includes not only the degree of difficulty but also the type of opponent characters. In Steps S3 to S5, in short, selectable items provided in the "game" are determined before the game is actually started.

In Step S6, the image command issuing device 6g issues an image command representing the display of an initial image of the selected game to the image processor 12. The image processor 12 in turn causes the initial image to be displayed on the display screen of the television monitor 2.

In Step S7, the variable setting device 6h resets flags and variables to be stored in the RAM 8.

In Step S8, the eye position data setting device 6b initializes values of eye position data Ex, Ey, Ez and guidance image data stored in the RAM 8 including a power meter PM and a stance width, for example setting address data representing the position of a teeing

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S300. Accordingly, the game player can predict the trajectory, flying distance, spin and stop position of the golf ball when he lets the golfer Ma in the golf game space drive the golf ball via the controller 16 with the current settings.

In Step S353, the button operation detecting device 6a discriminates whether the cross button 16d or the analog stick 16e has been pressed. Step S354 follows if the discrimination result is "YES".

In Step S354, the button operation detecting device 6a discriminates whether the right trigger button 16g has been pressed. Step S359 follows if the discrimination result is "YES", whereas Step S355 follows if it is "NO".

In Step S355, the button operation detecting device 6a discriminates whether the left trigger button 16f has been pressed. Step S356 follows if the discrimination result is "YES", whereas Step S353 follows if it is "NO".

In Step S356, the calculating device 6d subtracts a reference angle data Ang from a set stance value St.

In Step S357, the discriminating device 6f discriminates whether the set stance value St is smaller than a minimum stance value Stmin. Step S358 follows if the discrimination result is "YES", whereas Step S362 follows if the discrimination result is "NO".

In Step S358, the variable setting device 6h substitutes a maximum stance value Stmax for the stance value St.

In Step S359, the calculating device 6d adds the reference angle data Ang to the stance value St.

In Step S360, the discriminating device 6f discriminates whether the set stance value St is larger than a maximum angle data Angmax. Step S361 follows if the discrimination result is "YES", whereas Step S362 follows if the discrimination result is "NO".

In Step S361, the variable setting device 6h sets the stance value St to the maximum angle data Angmax.

In Step S362, the image command issuing device 6g issues an image command representing the display of a stance image corresponding to the set stance value St to the image processor 12. Accordingly, the image in the area Ar1 on the display surface of the television monitor 2 is displayed so as to correspond to the stance value St set according to the state of the cross key 16d or analog stick 16e.

In Step S363, the image command issuing device 6g issues a line image command to the image processor 12, which in turn writes a line data in the RAM 8 from the starting address to the end address. Accordingly, the line In in the guide Gu2 on the display surface of the television monitor 2 is so displayed as to correspond to the set stance value St.

In Step S364, the button operation detecting device 6a discriminates whether the decision button 16b has been pressed. Step S365 follows if the discrimination result is "YES", whereas Step S353 follows if the discrimination result is "NO".

In Step S365, the parameter administering device 6o stores the set stance value St used to determine the trajectory, flying distance, spin and stop position of the golf ball used in the stroke routine S500 in the RAM 8.

F. Stance Width Setting Routine S370 (FIGS. 9 to 10)

FIGS. 9 and 10 show operations of the stance width setting routine S370. The stance width setting refers to the setting of power at the time of a shot according to the spacing between the feet of the golfer.

In Step S371, the image command issuing device 6g issues an image command representing the display of the guidance image to the image processor 12, which in turn causes the guidance image for setting the stance to be displayed in the area AR1 on the display surface of the television monitor 2.

In Step S372, the image command issuing device 6g issues a line image command corresponding to the initial value to the image processor 12, which in turn writes a line data in the RAM 8 from a starting address to an end address in accordance with the line image command. This line is a line In in the guide Gu2. The guide Gu2 is a reduced image of the currently selected hole. Accordingly, the game player can predict the trajectory, flying distance, spin and stop position of the golf ball when he lets the golfer Ma in the golf game space drive the golf ball via the controller 16 with the current settings.

In Step S373, the button operation detecting device 6a discriminates whether the cross key 16d or analog stick 16e has been pressed. Step S374 follows if the discrimination result is "YES".

In Step S374, the button operation detecting device 6a discriminates whether an up-key of the cross key 16d has been pressed. Step S379 follows if the discrimination result is "YES", whereas Step S375 follows if the discrimination result is "NO".

In Step S375, the button operation detecting device 6a discriminates whether a down-key of the cross key 16d has been pressed. Step S376 follows if the discrimination result is "YES", whereas Step S373 follows if the discrimination result is "NO".

In Step S376, the calculating device 6d subtracts a reference value k of the movement of the feet from a set stance width value Sh.

In Step S377, the discriminating device 6f discriminates whether the set stance width value Sh is smaller than a minimum stance width value SHmin. Step S378 follows if the discrimination result is "YES", whereas Step S382 follows if the discrimination result is "NO".

In Step S378, the variable setting device 6h substitutes a maximum stance width value SHmax for the stance width value Sh.

In Step S379, the calculating device 6d adds the reference value k to the stance width value Sh.

In Step S380, the discriminating device 6f discriminates whether the stance width value Sh is larger than the maximum stance width value SHmax. Step S381

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H. Club Setting Routine S400 (FIGS. 13 and 14)

FIGS. 13 and 14 show operations of the club setting routine S400. Club setting refers to the selection of a golf club.

In this processing, club number data is used. A texture address representing an image of one club is allotted to each one of the club number data NO. These data are stored as a table. The club number data NO is incremented or decremented every time the cross key 16d or analog stick 16e is pressed. The texture address corresponding to the value of the club number data NO is fed to the image processor 12, which in turn reads an image data of a club corresponding to the texture address data from a non-display area of the RAM 8 and writes the read Image data in a display area of the RAM 8. Thus, the image of the club is displayed in the area Ar3 on the display surface of the television monitor 12 shown in FIG. 3.

In Step S401, the image command issuing device 6g issues an image command representing the display of the guidance image to the image processor 12, which in turn causes the image of the selected golf club and the line In corresponding to the flying distance of the selected golf club to be displayed in the area Ar3 and in the guide Gu1 on the display surface of the television monitor 2. 3, respectively. Further, the displayed states of the stance width and the power meter PM in the area Ar1 correspond to the initial value of the selected golf club.

In Step S402, the image command issuing device 6g issues a line image command corresponding to the initial value to the image processor 12, which in turn writes a line data in the RAM 8 from a starting address to an end address in accordance with the line image command. This line is the line In in the guide Gu1. The guide Gu1 is a reduced image of the currently selected hole. Accordingly, the game player can predict the trajectory, flying distance, spin and stop position of the golf ball when he lets the golfer Ma in the golf game space drive the golf ball via the controller 16 with the current settings.

In Step S403, the button operation detecting device 6a discriminates whether the cross key 16d or analog stick 16e has been pressed. Step S404 follows if the discrimination result is "YES".

In Step S404, the button operation detecting device 6a discriminates whether the right trigger button 16g of the controller 16 has been pressed. Step S404 follows if the discrimination result is "YES", whereas Step S405 follows if the discrimination result is "NO".

In Step S405, the button operation detecting device 6a discriminates whether the left trigger button 16f of the controller 16 has been pressed. Step S406 follows if the discrimination result is "YES", whereas Step S403 follows if the discrimination result is "NO".

In Step S406, the calculating device 6d subtracts "1" from the club number data NO.

In Step S407, the discriminating device 6f discriminates whether the value of the club number data NO is smaller than a minimum vale NOmin thereof. Step S408 follows if the discrimination result is "YES", whereas Step S412 follows if the discrimination result is "NO".

In Step S408, the variable setting device 6h substitutes a maximum value NOmax of the club number data NO for the club number data NO.

In Step S409, the calculating device 6d adds "1" to the club number data NO.

In Step S410, the discriminating device 6f discriminates whether the club number data NO is larger than the maximum vale NOmax thereof. Step S411 follows if the discrimination result is "YES", whereas Step S412 follows if the discrimination result is "NO".

In Step S411, the variable setting device 6h substitutes the minimum value NOmin for the club number data NO.

In Step S412, the image command issuing device 6g issues an image data representing the display of the image of the club corresponding to the set value of the club number data NO to the image processor 12, which in turn causes the image of the club corresponding to the value of the club number data NO to be displayed in the area Ar3 on the display surface of the television monitor 2. Further, the displayed states of the stance width and the power meter PM in the area Ar1 correspond to the initial value of the selected golf club.

In Step S413, the image command issuing device 6g issues a line image command to the image processor 12, which in turn writes a line data in the RAM 8 from a starting address to an end address in accordance with the line image command. Accordingly, the displayed state of the line In in the guide Gu2 on the display surface of the television monitor 2 also corresponds to the value of the club number data NO.

In Step S414, the button operation detecting device 6a discriminates whether the decision button 16b has been pressed. Step S415 follows if the discrimination result is "YES", whereas Step S403 follows if the discrimination result is "NO".

In Step S415, the parameter administering device 6o stores the set club number data NO in the RAM 8.

I. Stroke Routine S500 (FIGS. 15 and 16)

FIGS. 15 and 16 show operations of the stroke routine S500. The term "stroke" means to let the golfer Ma in the golf space displayed on the display surface of the television monitor 2 drive the golf ball by the operation of the controller 16 by the game player. In this stroke routine, the image display processing is performed until the golf ball driven by the golfer Ma in the golf game falls and stops in this space.

In Step S501, the image command issuing device 6g issues an image command representing the display of the image of the power meter PM which serves as a guide for the stroke to the image processor 12, which in

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noted that the animation processing of the golfer of Step S513 may also be performed in Step S510.

In Step S514, the calculating device 6d calculates all ball positions Bx, By, Bz per unit time based on the ball positions Bx, By, Bz, the stroke energy data POWER, the tee-up data Ty, the direction data Di, the stance data St, the club number data NO, the wind direction data WDi and the wind velocity data Wp. The unit time refers to 30 frames/sec. in, for example, a television system of NTSC. Thus, in this case, the position of the ball per frame is obtained in advance.

A time which lasts until the ball stops differs depending on the above parameters. Accordingly, if the position of the ball per frame is obtained and one frame of image corresponding to that ball position is displayed, the number of frames of images to be displayed until the ball stops differs. The number of frames of images until the ball stops is stored as nmax in the RAM 8.

In Step S515, the calculating device 6d adds f to a variable n. Here, f refers to, e.g., one frame.

In Step S516, the discriminating device 6f discriminates whether the variable n is larger than a maximum value nmax. Step S517 follows if the discrimination result is "YES", whereas Step S518 follows if it is "NO". As described above, nmax is the number of frames of images to be displayed until the golf ball stops.

In Step S517, the variable setting device 6h substitutes "0" for a variable h.

In Step S518, the image command issuing device 6g issues an image representing the display of the image of the ball corresponding to the ball position data Bxn, Byn, Bzn to the image processor 12.

In Step S519, the button operation detecting device 6a discriminates whether the decision button 16b has been pressed. This routine is exited if the discrimination result is "YES", whereas Step S520 follows if the discrimination result is "NO".

In Step S520, the calculating device 6d adds "1" to the variable n.

In Step S521, the discriminating device 6f discriminates whether the variable n is larger than the maximum value nmax. The stroke routine is exited if the discrimination result is "YES", whereas Step S522 follows if it is "NO".

In Step S522, the variable setting device 6h substitutes the ball position data Bxn, Byn, Bzn for the eye position data Ex, Ey, Ez.

In Step S100, the image display processing routine is performed. Steps S520 to S100 are performed to reproduce the flying state of the driven golf ball. The ball position varies every moment for each frame. Accordingly, by substituting the ball position data Bxn, Byn, Bzn for the eye position data Ex, Ey, Ez, the eye position varies every moment, thereby changing the background image every moment. Thus, a so-called replay image is displayed on the display surface of the television monitor 2.

As described above, according to this embodiment, the result of the shot to be made can be changed by changing the "spacing between the feet", "direction of the feet" and "the position of the golf ball" when the golfer Ma takes a stance. More specifically, the spacing between the feet determines the power of the shot, which influences the flying distance of the golf ball. By changing the width of the power meter, the game player is caused to realize the spacing between the feet substantially influences the result. When the power meter is changed by changing the spacing between the feet, a range used to takes an impact timing is increased or decreased, thereby influencing the degree of difficulty in taking a timing. This makes the stability of the shot similar to that of real golf. Further, in this embodiment, the spin of the golf ball is changed by the position of the ball. For example, back spin is likely to be given to the ball if the ball is positioned near the right foot, making the shot a so-called "punch shot" having a low trajectory. Such a shot is unlikely to be influenced by the wind even when the wind is against. By positioning the ball near the left foot, the shot can be made to fly high and the flying distance can be controllably lengthened with the wind when the wind is behind. Thus, the trajectory of the golf ball is changed depending on how the stance is taken similar to the real golf, thereby realizing a more real golf system.

In the foregoing embodiment, the spacing between the feet is changed to change the power of the shot as a factor for determining the flying distance of the golf ball. However, the velocity of a swing may be added as a factor for determining the flying distance of the golf ball. In the foregoing embodiment, the maximum value of the power of the shot is determined by the spacing between the feet, and an amount of power given to make an actual shot is determined at the top of swing position in the subsequent stroke routine. The velocity of the swing is added as an auxiliary parameter for determining how the determined amount of power can be efficiently used. If the velocity of the swing is used to correct the power of the shot, it can be expected that a shot can be more strategically made and that the game player can feel more during the operation as if here were actually playing golf. A variety of techniques for setting the velocity of the swing are considered. For example, it may be determined by the degree of inclination of the analog stick 16e. A control may be made such that the higher swing velocity leads to a longer flying distance, but also to an increased degree of difficulty in taking a timing. For such a control, the velocity at which the meter is colored on the screen at the time of a down swing is changed according to the swing velocity, thereby simply changing the feeling the game player has during the operation to change a degree of difficulty in taking a timing.

According to the present invention, the stance is adjusted by the player and a changed state of the stance is displayed on a display screen. Accordingly, the game player can easily recognize based on which

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of:

calculating an impact timing range in accordance with the operation signal; and
producing a game image having a guide image representing a calculated impact timing range.

11. A method for providing a simulative golf game according to claim 8, wherein the operation signal regards a position of feet with respect to a golf ball, further comprising the step of producing a game image having a guide image representing a set position of feet with respect to the golf ball.

12. A method for providing a simulative golf game according to claim 11, the method further comprising the steps of:

calculating a trajectory of the golf ball in accordance with the operation signal; and
producing a game image representing a calculated trajectory of the golf ball.

13. A computer readable storage medium storing a simulative golf game program which renders a computer to execute the procedures of:

receiving an operation signal regarding a stance setting from an operation unit to be operated by a player;
producing a game image having a guide image representing a stance setting in accordance with the operation signal; and
displaying a produced game image having a guide image regarding a stance setting a display unit.

14. A computer readable storage medium according to claim 13, wherein the program further includes the procedures of:

calculating a flying of a golf ball in accordance with the operation signal regarding a stance setting; and
producing a game image representing a calculated flying of the golf ball.

15. A computer readable storage medium according to claim 14, wherein the operation signal regards a spacing between feet, the program further includes the procedures of:

calculating a shot power in accordance with the operation signal; and
producing a game image having a guide image representing a calculated shot power.

16. A computer readable storage medium according to claim 15, wherein the program further includes the procedures of:

calculating an impact timing range in accordance with the operation signal; and
producing a game image having a guide image representing a calculated impact timing range.

17. A computer readable storage medium according to claim 14, wherein the operation signal regards a position of feet with respect to a golf ball, and the program further includes the procedure of producing a game image having a guide image representing a set position of feet with respect to the golf ball.

18. A computer readable storage medium according to claim 17, wherein the program further includes the procedures of:

calculating a trajectory of the golf ball in accordance with the operation signal; and
producing a game image representing a calculated trajectory of the golf ball.

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FIG. 2

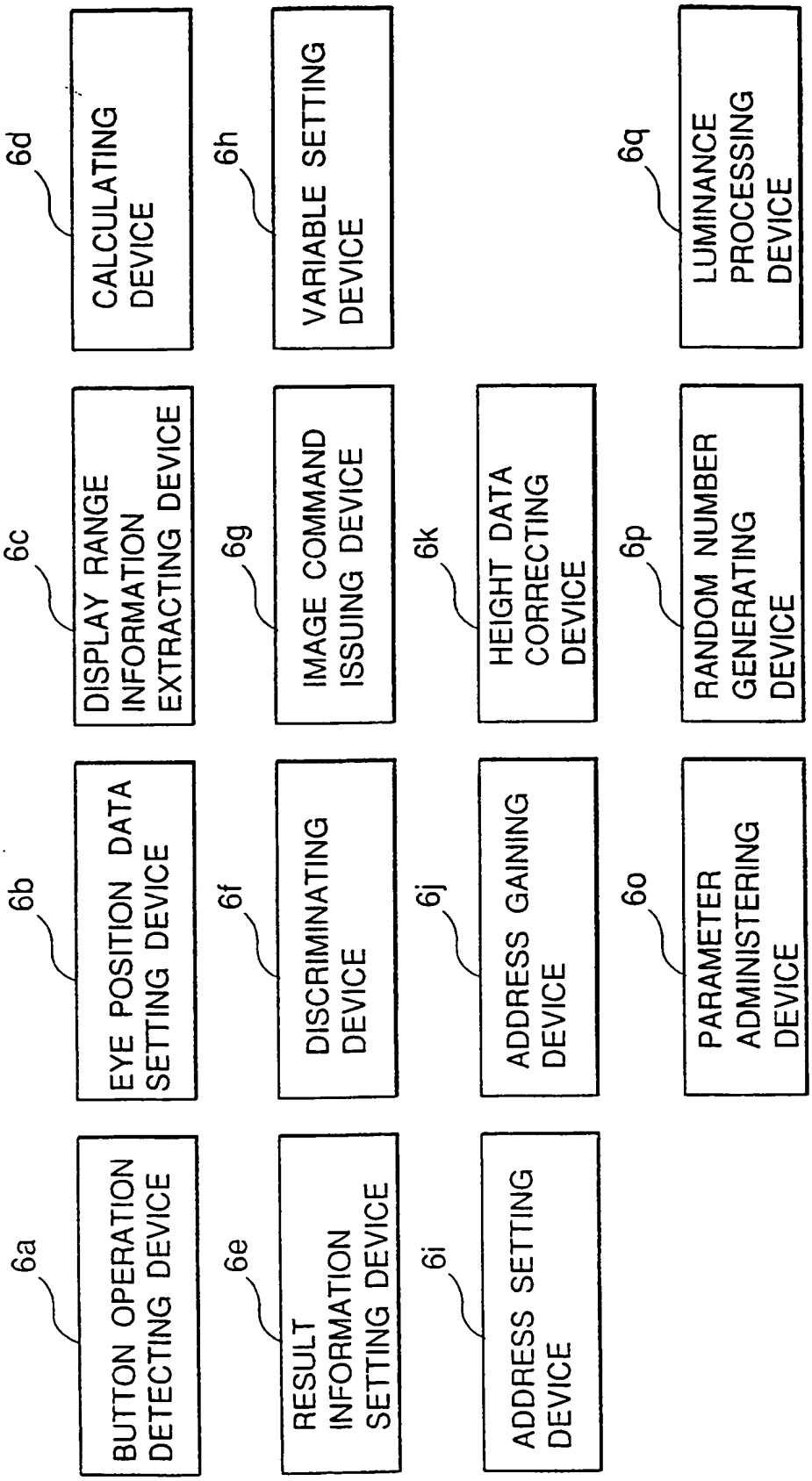

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FIG. 4

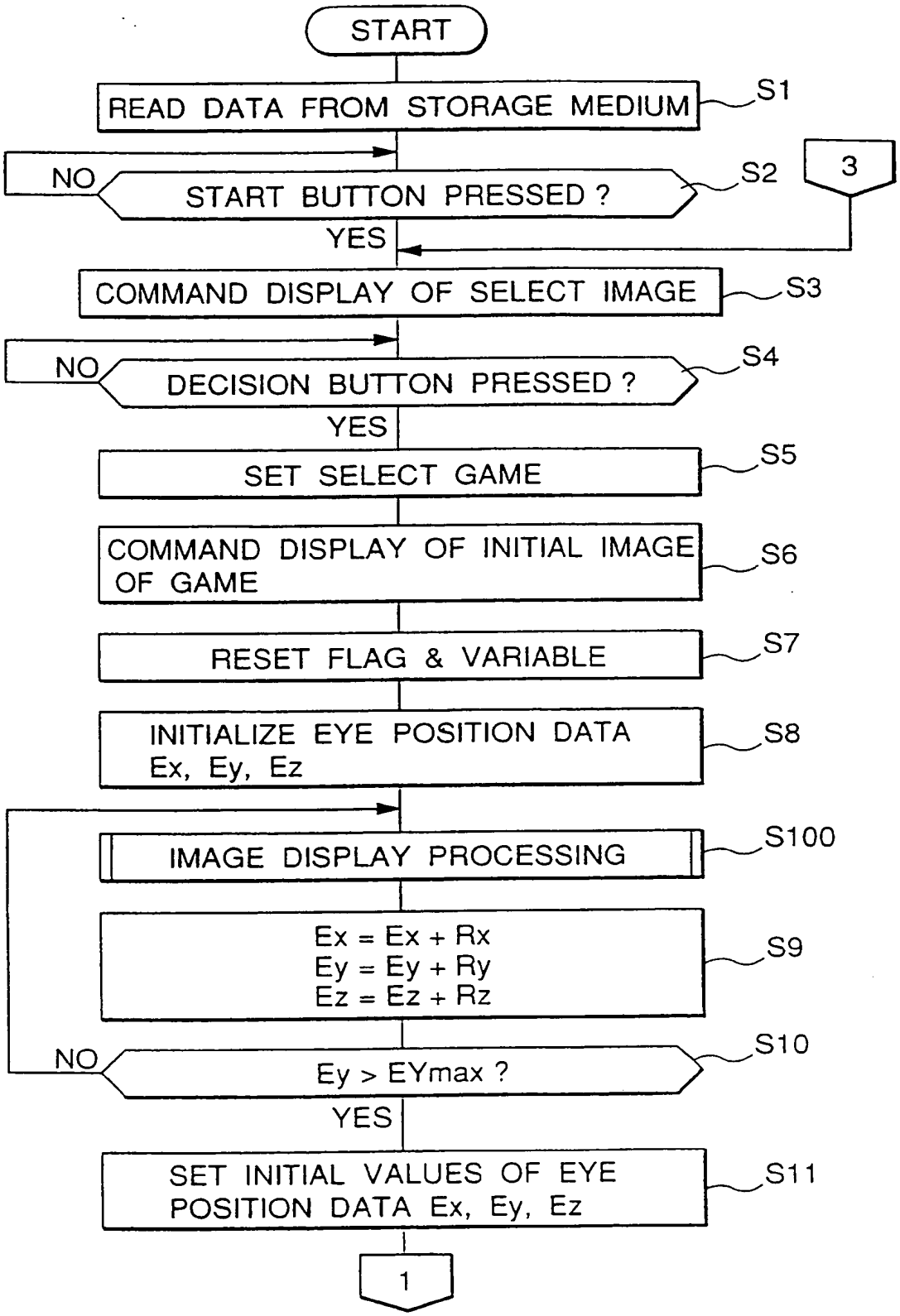

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FIG.6

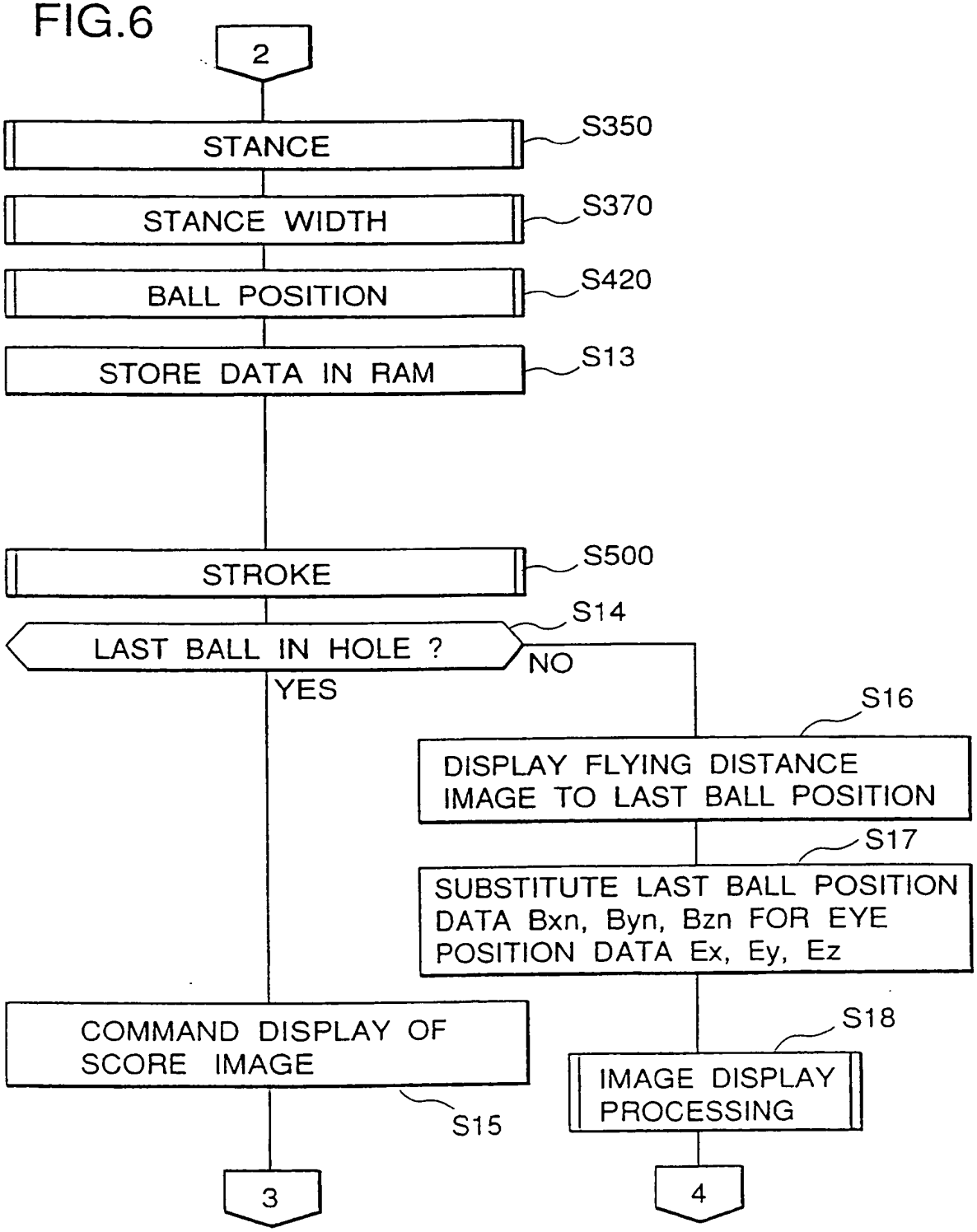

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FIG. 8

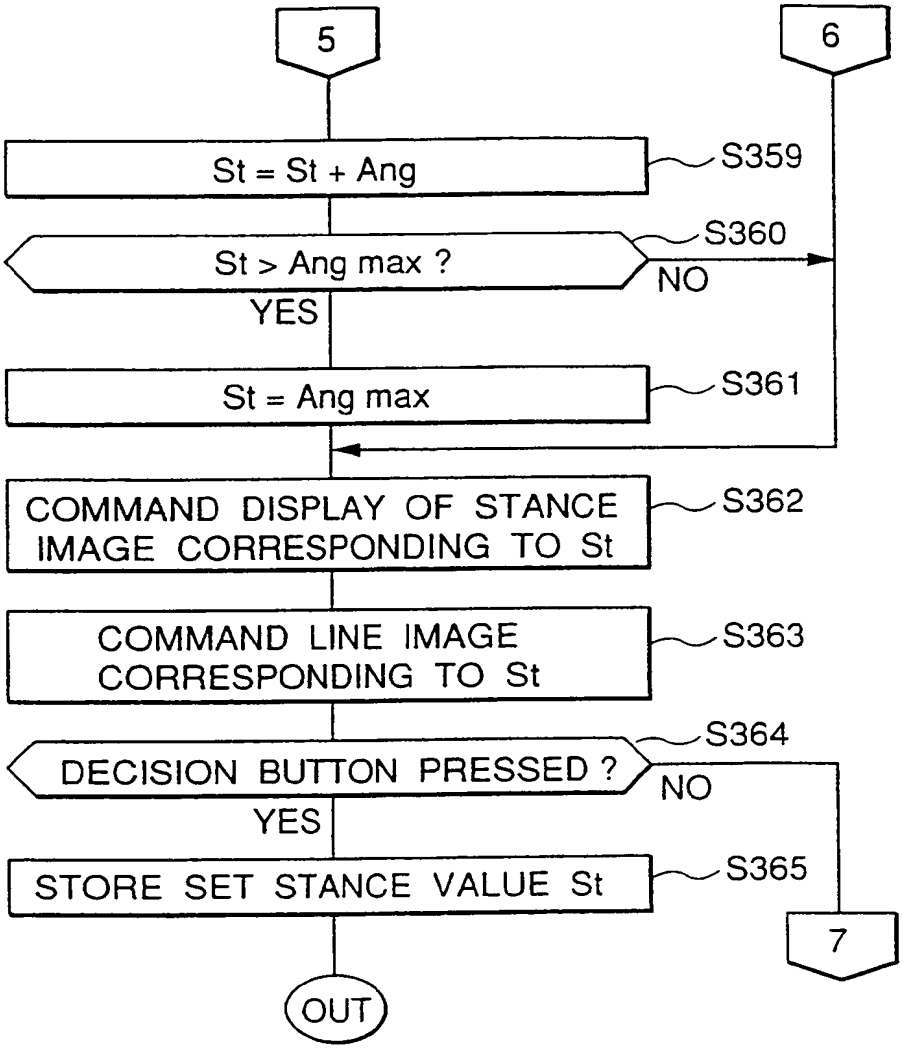

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FIG. 10

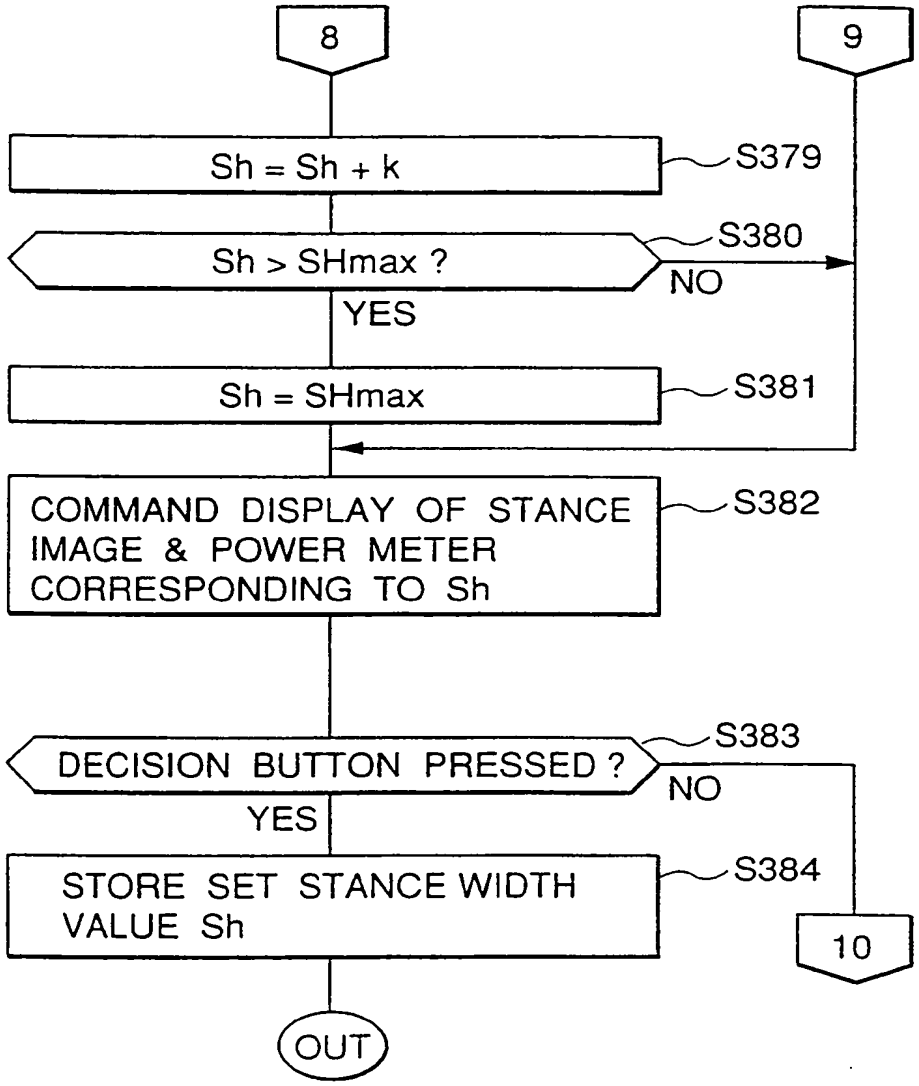

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FIG. 12

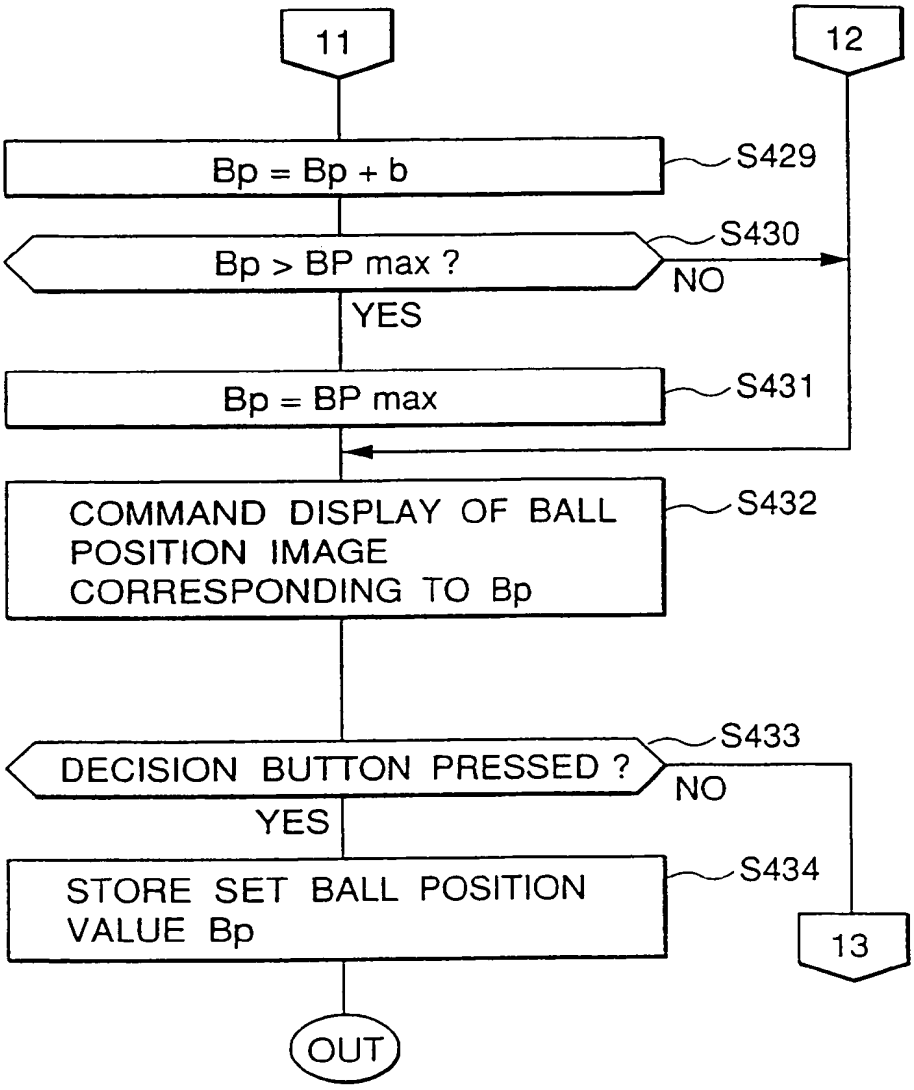

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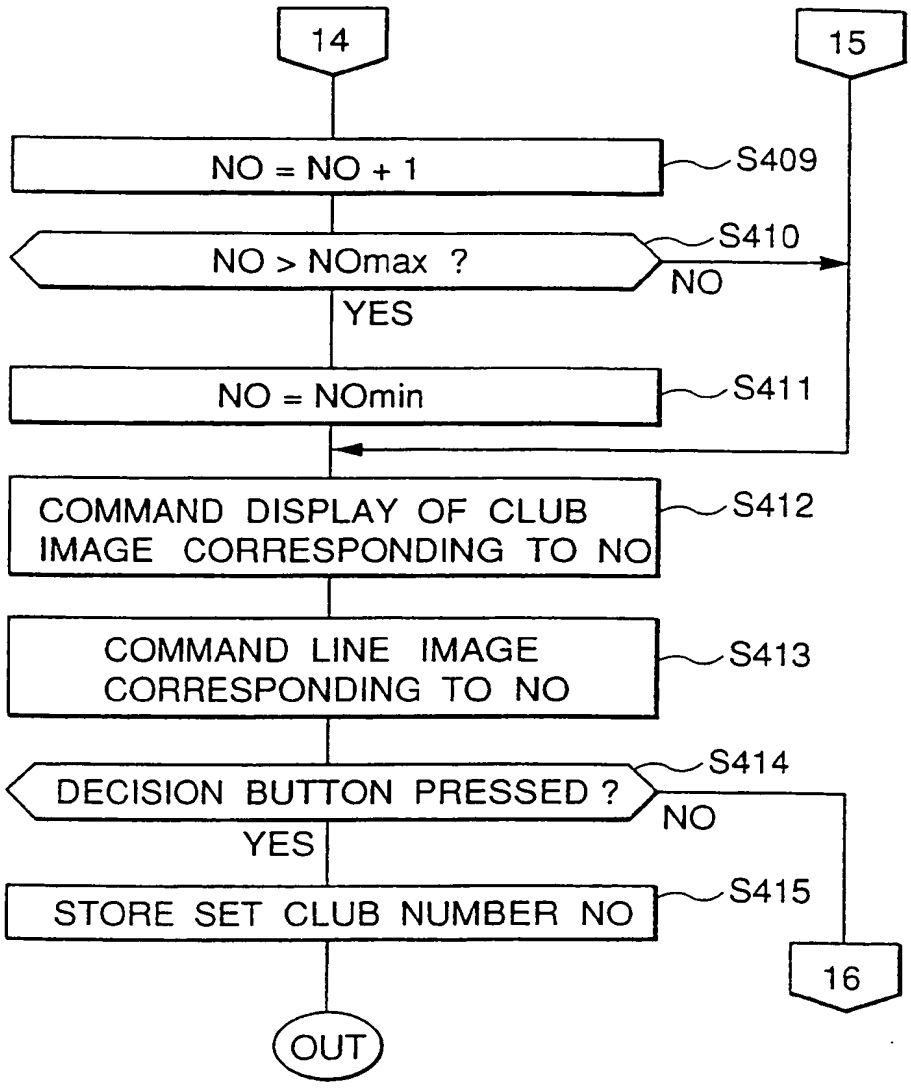
FIG. 14



BNSDOCID: <EP___0830881A2_I_>

FIG. 16

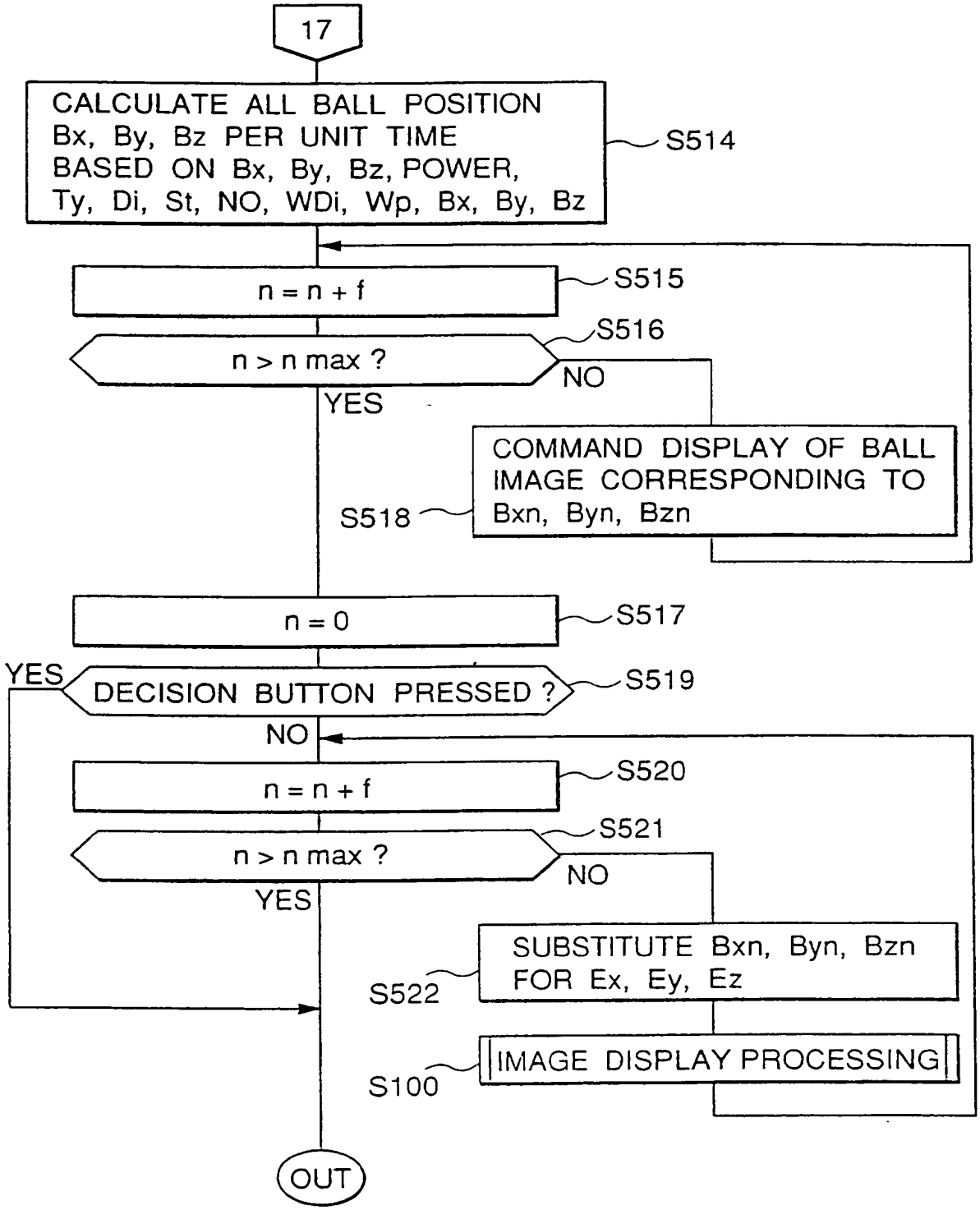


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FIG. 19A

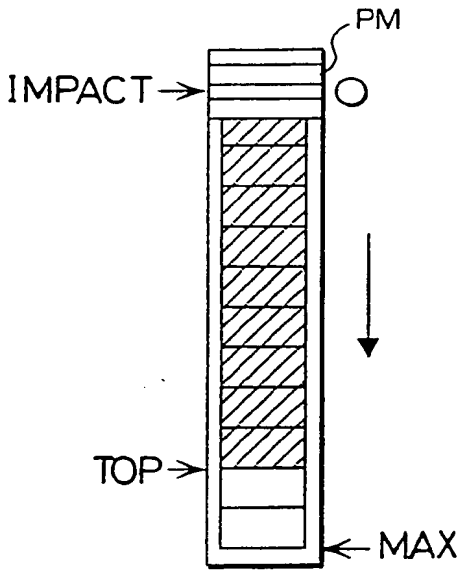

FIG. 19B

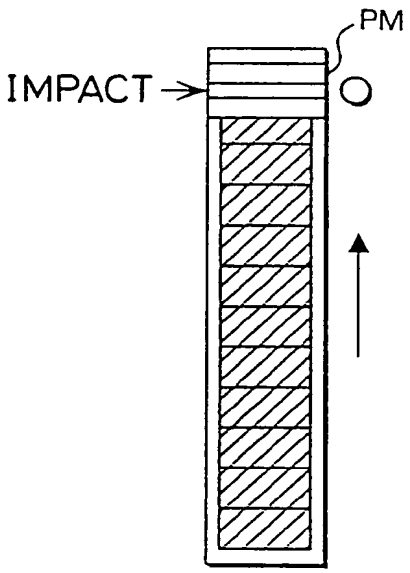

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FIG. 1

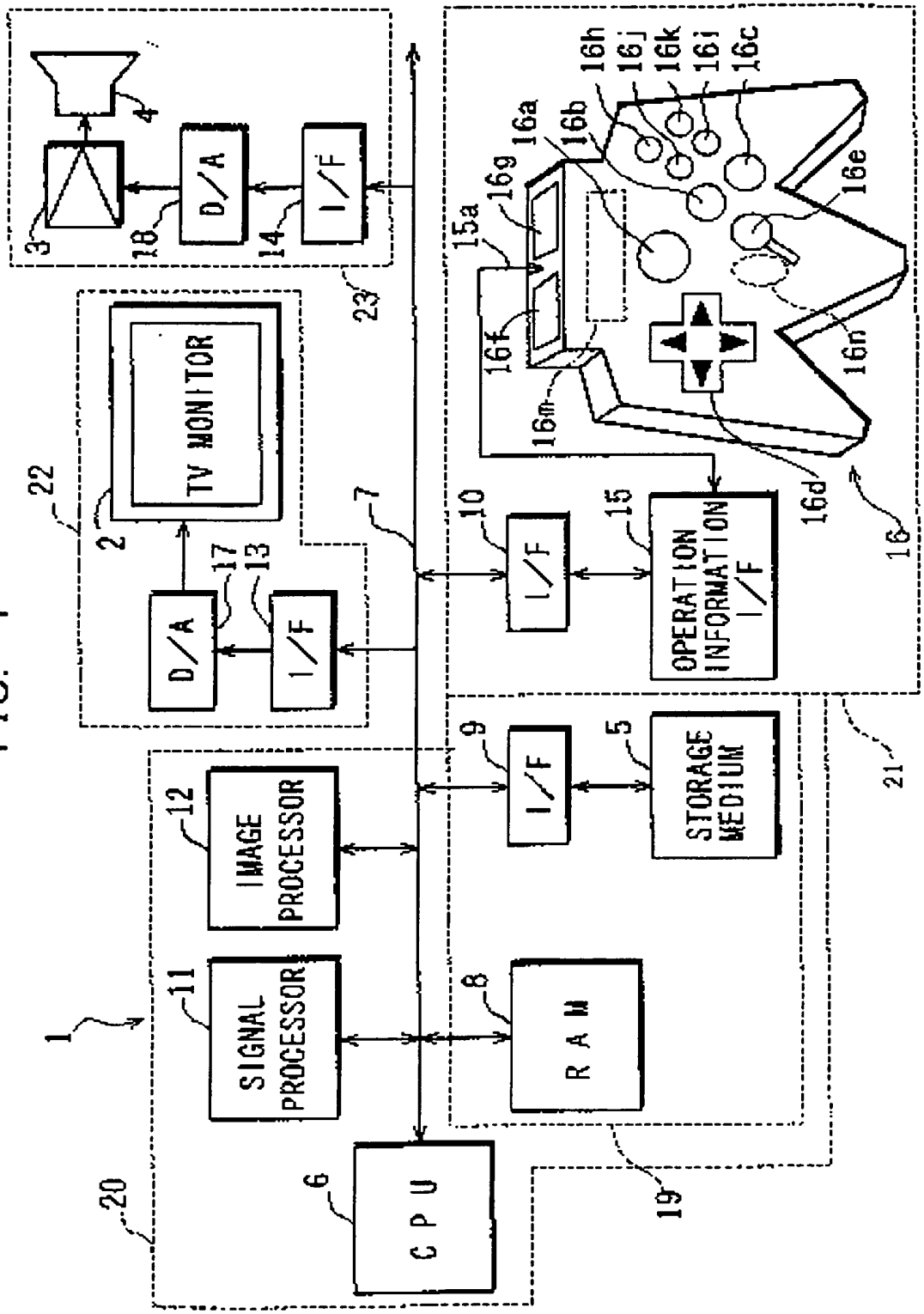

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FIG. 3

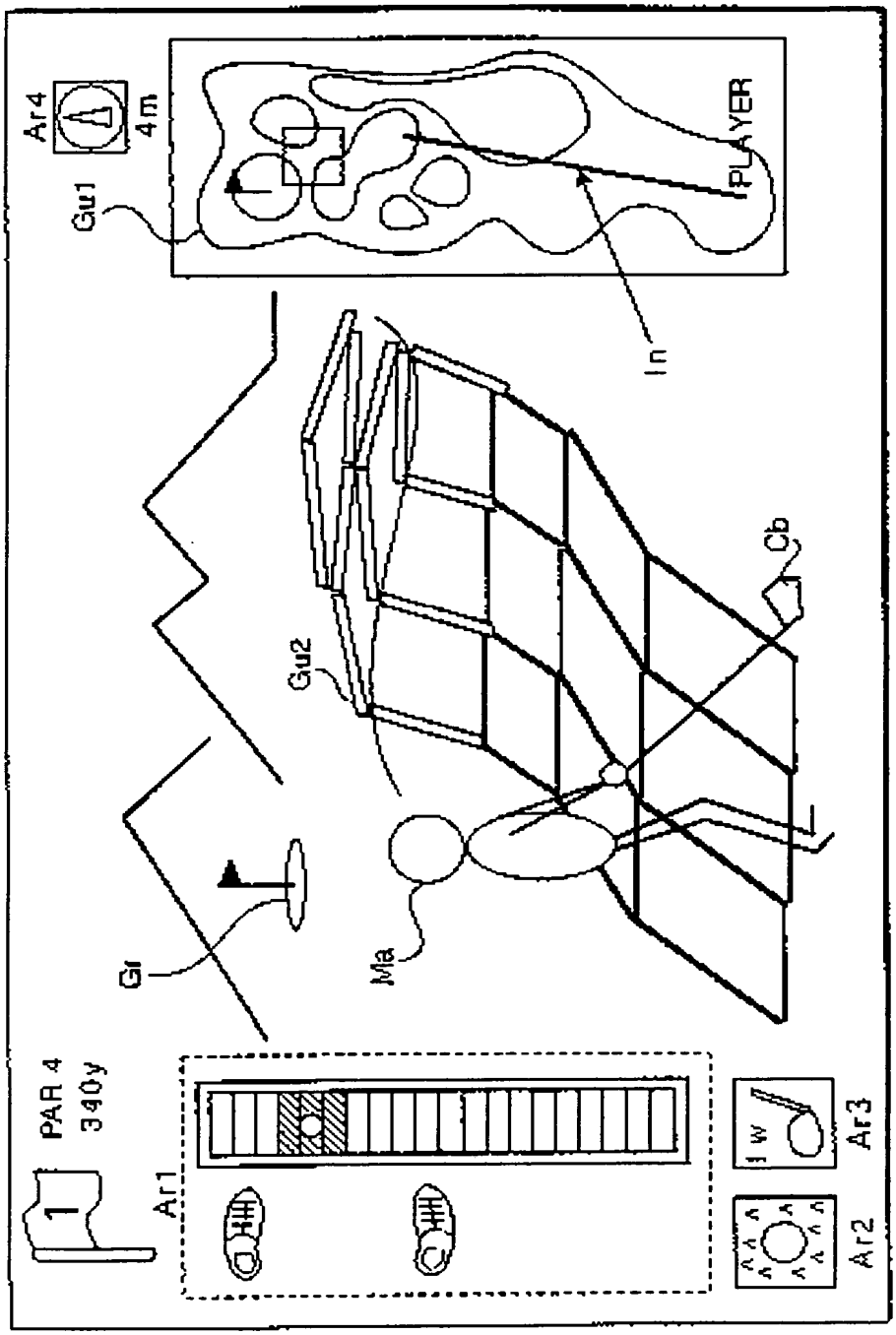

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FIG. 5

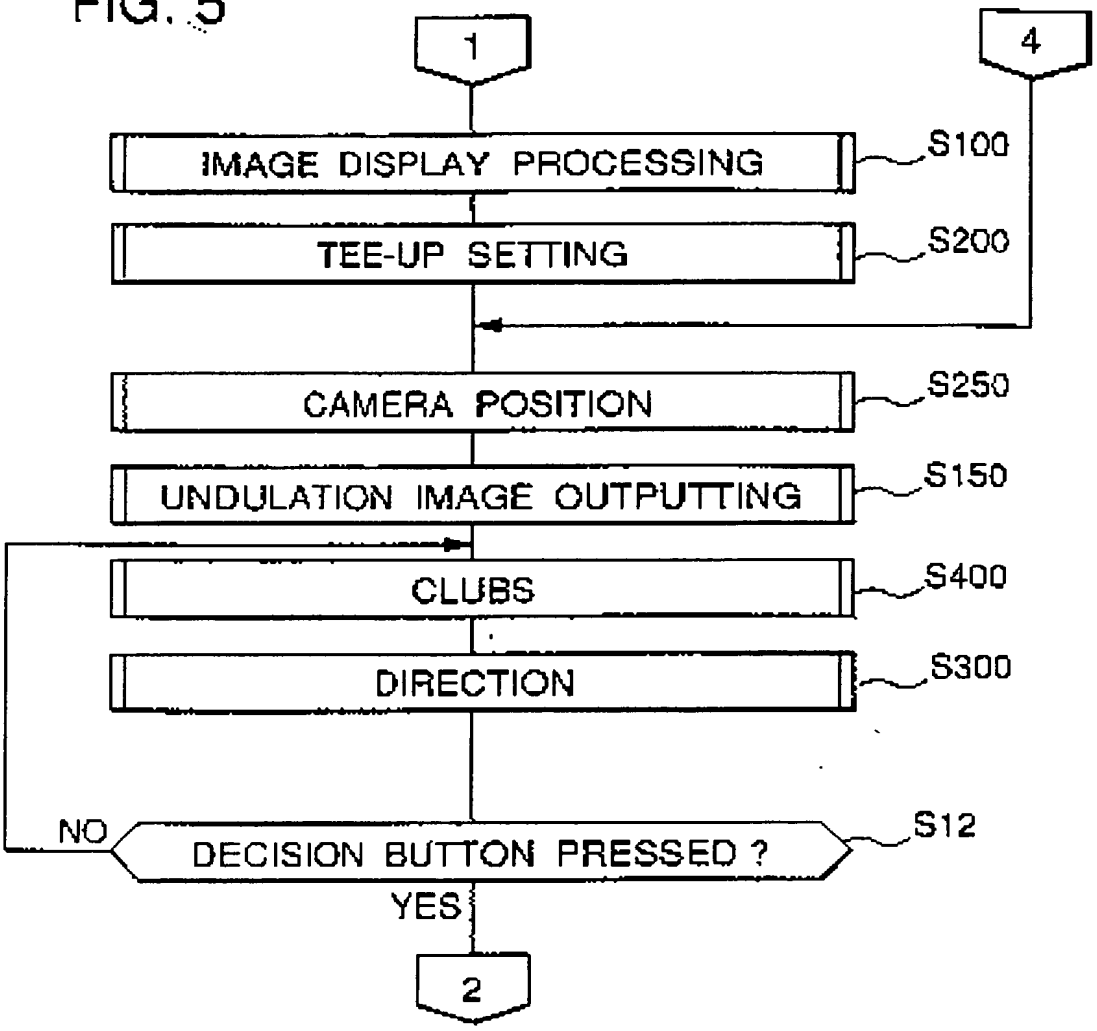

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FIG.7

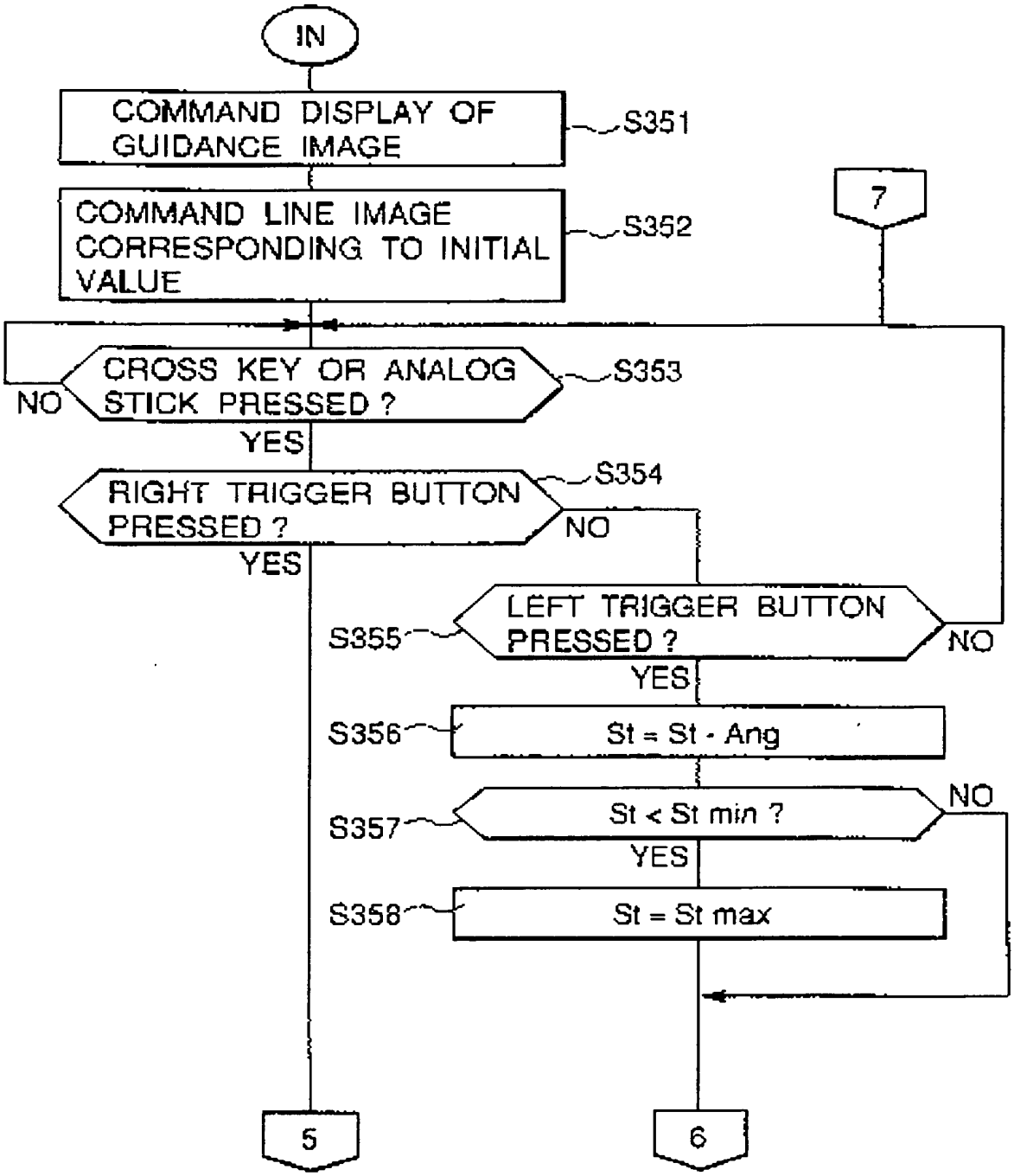

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FIG.9

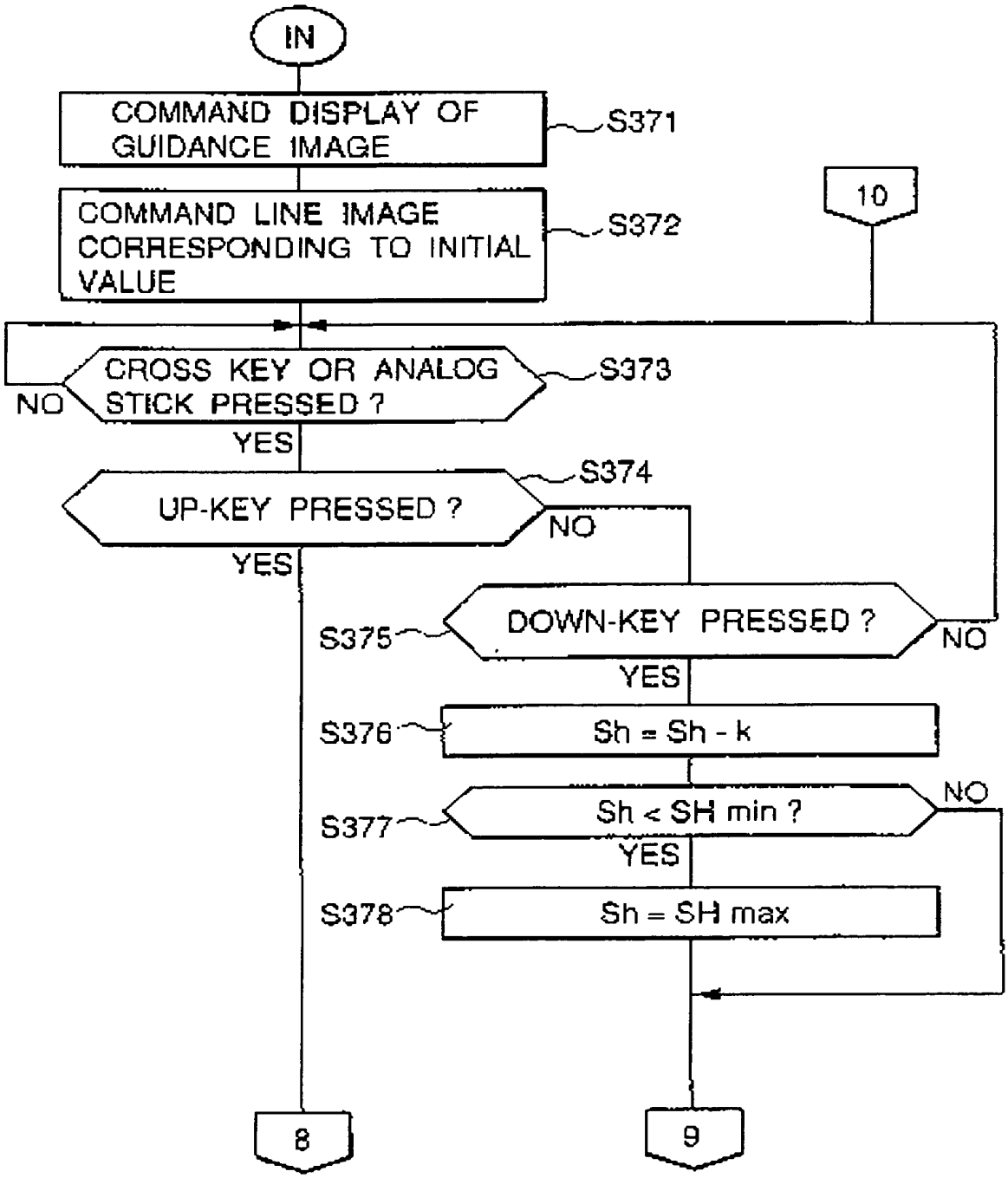

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FIG.11

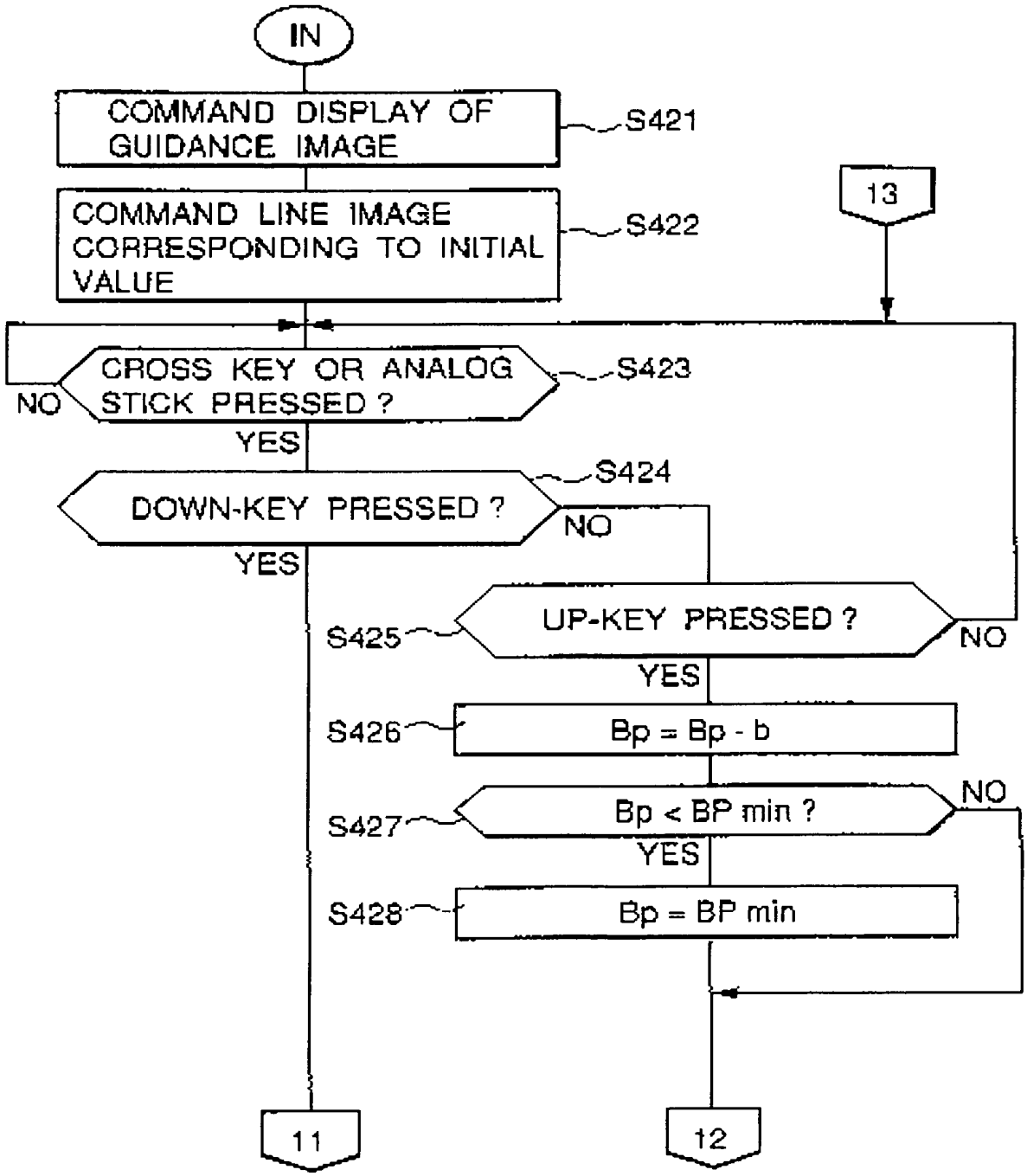

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FIG.13

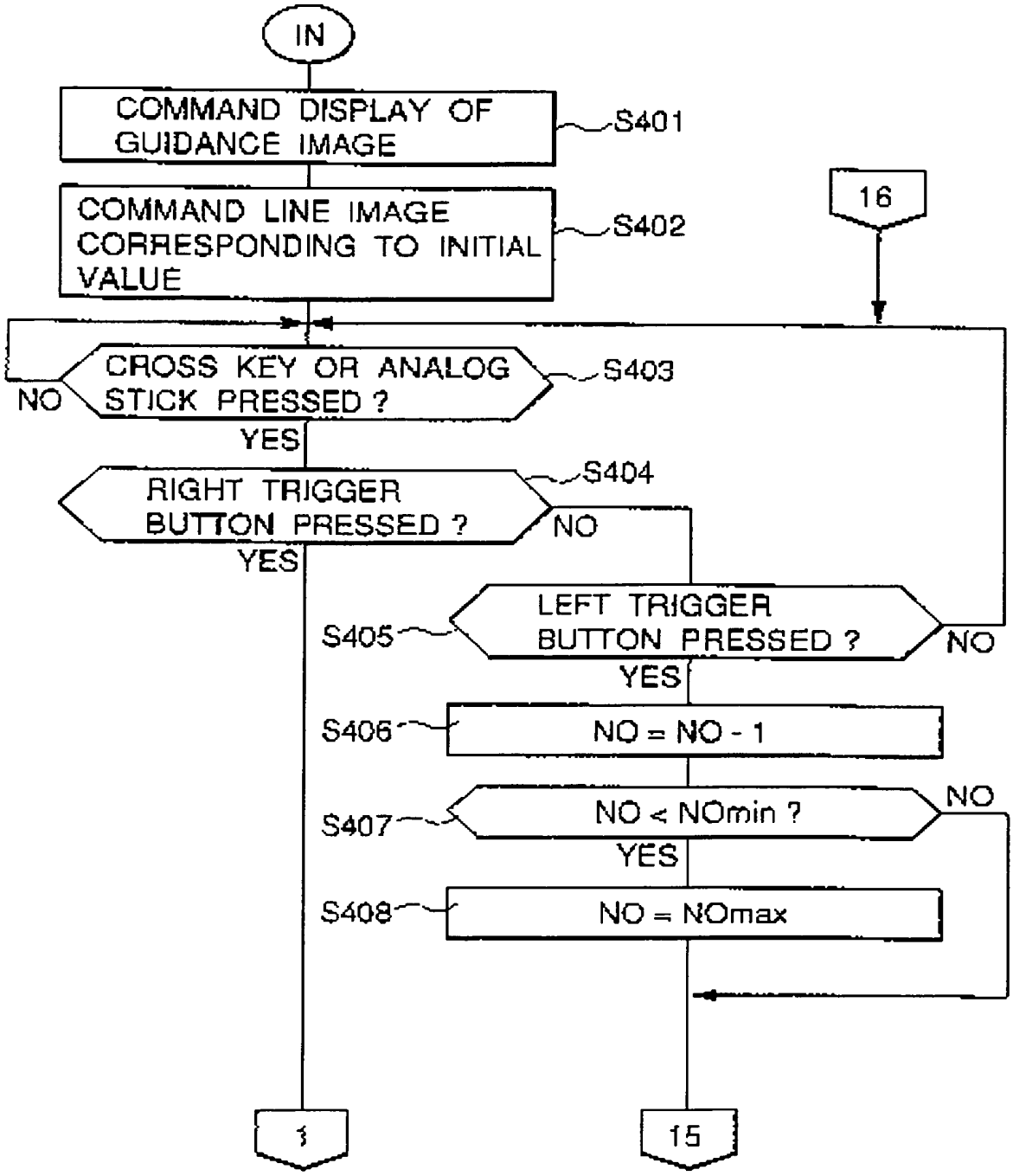

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FIG. 15

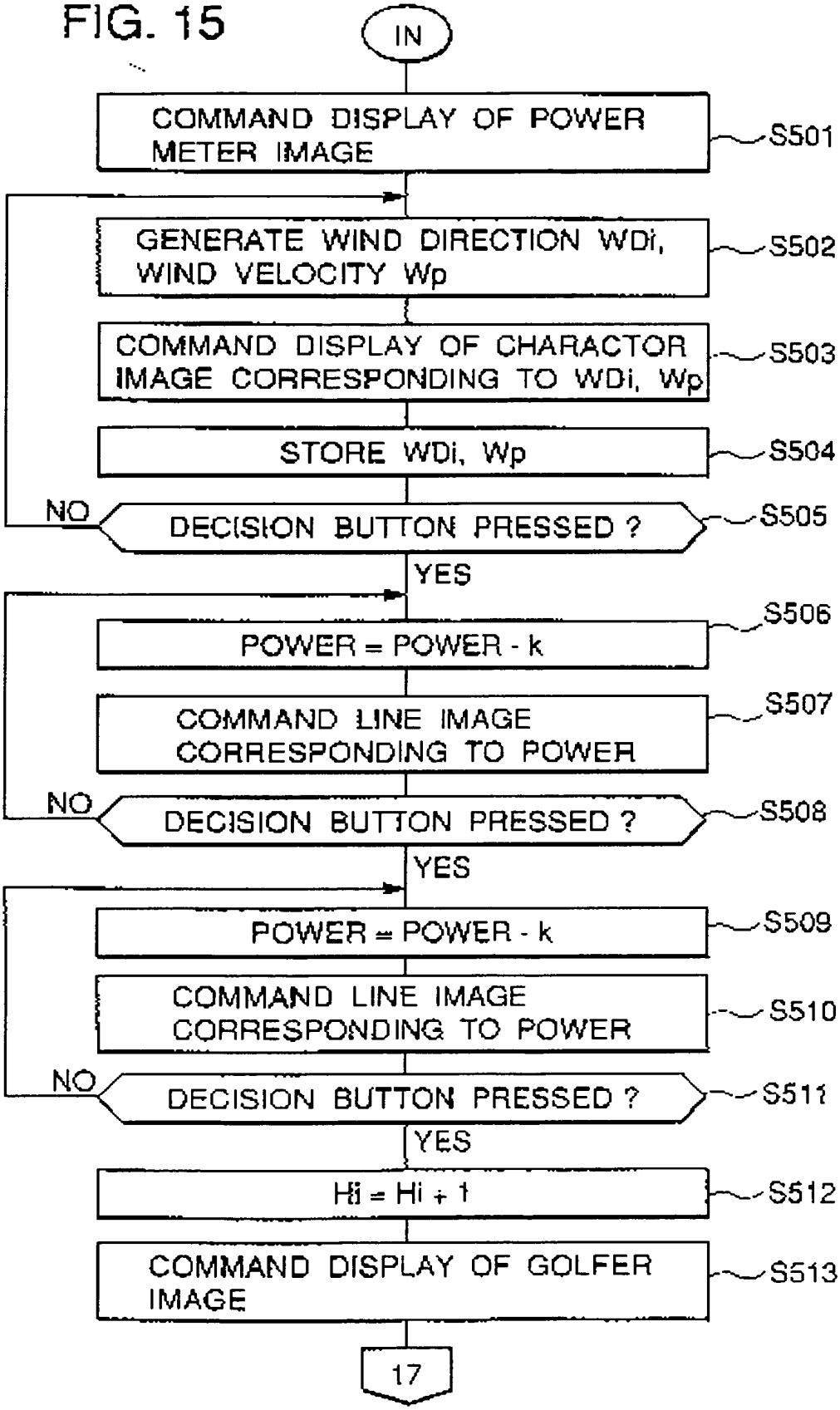

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FIG. 17A

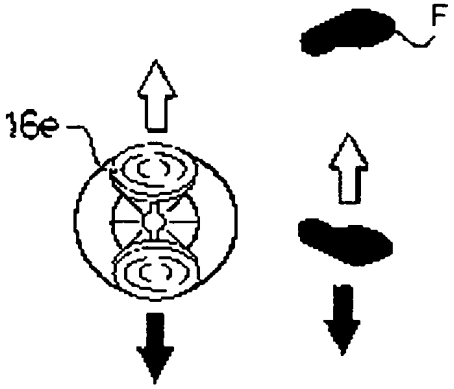


FIG. 17B

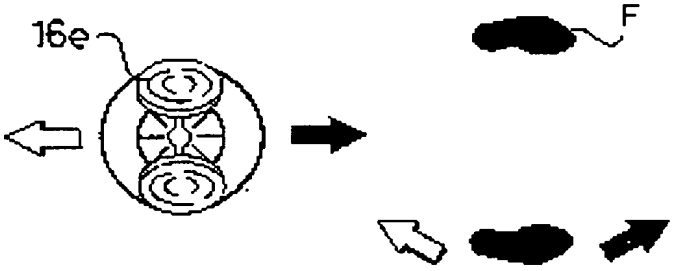


FIG. 18A

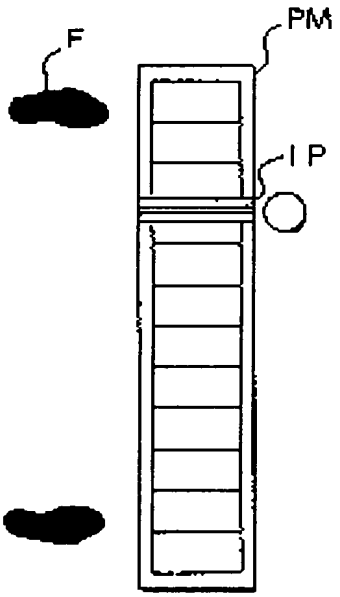
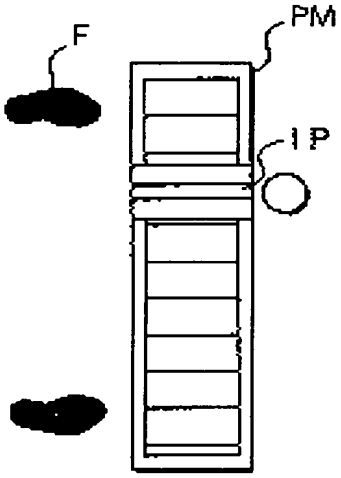


FIG. 18B



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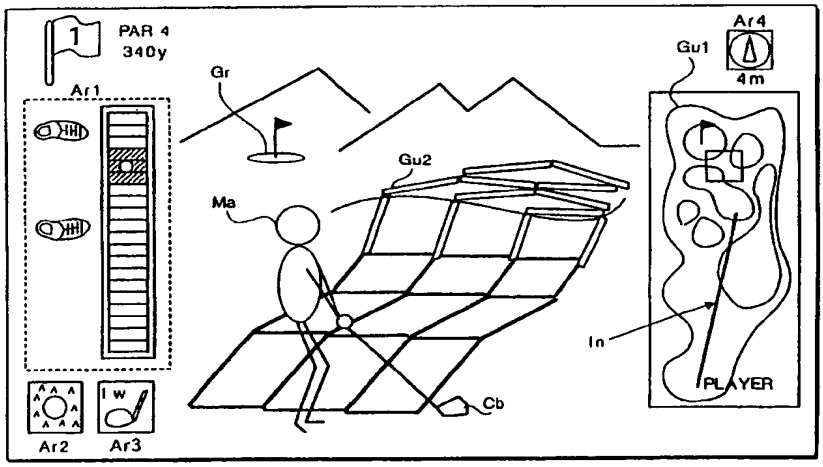
(54) Simulative golf video game system

(57) A simulative golf game system is capable of producing a game image having a guide image regarding a stance setting (Ar1), enabling the game player to easily recognize based on which stance the game is going to be played. The guide image represents a power meter whose scale increases and decreases according to a spacing between the feet. The foot spacing determines the power applied for the shot, and influences the flying distance of the golf ball, thereby making the game more real.

FIG. 3



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